

PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No.: Q66840

Kazuki SAKATA, et al.

Appln. No.: 10/004,840

Group Art Unit: 2625

Confirmation No.: 7791

Examiner: James A. THOMPSON

Filed: December 7, 2001

For: SENSOR IN CAR WINDOW

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

Table of Contents

I. REAL PARTY IN INTEREST	2
II. RELATED APPEALS AND INTERFERENCES	3
III. STATUS OF CLAIMS	4
IV. STATUS OF AMENDMENTS	5
V. SUMMARY OF THE CLAIMED SUBJECT MATTER	6
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL	7
VII. ARGUMENT	8
CLAIMS APPENDIX	17
EVIDENCE APPENDIX:	18
RELATED PROCEEDINGS APPENDIX	19

I. REAL PARTY IN INTEREST

Based on the information supplied by the Appellants, and to the best of Appellants' legal representatives' knowledge, the real party in interest is the assignee, MITSUBISHI DENKI KABUSHIKI KAISHA.

II. RELATED APPEALS AND INTERFERENCES

Appellants, as well as Appellants' assigns and legal representatives, are unaware of any appeals or interferences which will be directly affected by, or which directly affect or have a bearing on, the Board's decision in the pending case.

III. STATUS OF CLAIMS

Claims 1-6 are all the claims pending in the present application. Claims 1-6 have been finally rejected, and are the subject of this appeal. The pending claims are set forth in the Appendix.

IV. STATUS OF AMENDMENTS

In response to the first Office Action dated November 30, 2005, a reply without any amendment to the original claims was filed on February 27, 2006 and was entered. In response to the non-final Office Action dated April 27, 2006, a reply with an amendment to original claim 1 was filed on July 27, 2006 and was entered. In response to the final Office Action dated October 16, 2006, a response with an amendment to pending claim 1 was filed on January 16, 2007 but was not entered. Upon filing of an RCE on February 16, 2007 the amendment to claim 1 was entered. In response to the Office Action dated May 3, 2007, a response with a further amendment to claim 1 was filed on August 1, 2007 and was entered. In response to the final Office Action dated August 17, 2007, a Notice of Appeal and Pre Appeal Submission were filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1

The present invention, as defined in independent claim 1 on appeal and with reference to the non-limiting and exemplary embodiment that is illustrated in Fig. 1 and described at page 3, lines 9-18 of the specification, is a sensor or camera in a car window (1) that comprises a hood (10) and a sensor/camera main body (4) that includes a lens (3) projecting within the hood (10). The hood (10) is partitioned and disposed within the vehicle compartment area. The sensor is operative to detect an object that is located in front thereof and outside of the vehicle compartment area, such as another vehicle, a person or animal. A part of the hood (10) is a breathable dustproof filter (11) that is detachable. The hood protects the lens from contamination, including dew and moisture, as explained at page 4, lines 6-24 of the specification.

Claim 5

As explained at page 3, lines 16-18 of the specification, the visible field of the lens 3 coincides with the wiping range of the windshield wiper (not shown) that is provided on the front surface of the windshield.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

I. Claims 1, 2 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over. Zerbe (EP 0934851 A2) in view of Choate (3,840,883) and Suzuki (5,034,772).

II. Claims 3 and 4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Zerbe (EP 0934851 A2) in view of Choate (3,840,883) and Suzuki (5,034,772) and further in view of Fujii (5,922,105).

III. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Zerbe (E 0934851 A2) in view of Choate (3,840,883) and Suzuki (5,034,772) and further in view of obvious engineering design choice.

VII. ARGUMENT

I. Rejection of Claims 1, 2 and 6

Claim 1, the only independent claim pending in the application, is patentable over Zerbe (EP 0934851 A2) in view of Choate (3,840,883) and Suzuki (5,034,772).

As a preliminary matter, Appellants note that the USPTO rejections based on Section 103(a) are governed by the principles embodied in the *Examination Guidelines for Determining Obviousness Under 35 USC 103 in view of the Supreme Court Decision in KSR International Co. v. Teleflex Inc.* (Fed. Reg. Vol. 72, No. 195, pp 57526-57535).

The Guidelines require the Examiner to fulfill the critical role of fact finder when resolving the Graham inquiries and must have a written record concerning the state of the art and the teachings of the references applied, as well as the explicit findings as to (1) how a person of ordinary skill would have understood the prior art teachings, (2) what a person of ordinary skill would have known or could have done and (3) what such person would have reasonably expected to have been able to do in view of that knowledge.

Appellants submit that one skilled in the art having the three references before him or her would not have had any reasonable expectation to achieve the invention as claimed and would not have been led to the present invention due to (1) the failure of the prior art to teach critical elements of the invention and (2) the significantly different structures, applications and functions of the prior art that would preclude their combination.

Claim 1

The invention is defined as a sensor in a car window, comprising:

(1) a hood partitioned in consort with a car window and disposed within a vehicle compartment area; and

(2) a sensor main body having a lens, at least said lens projecting into and housed within the hood,

(a) wherein said sensor is operative to detect, through the lens, an object to be detected that is located in front thereof and outside of the vehicle compartment area,

(b) wherein a breathable dustproof filter is provided on a part of the hood.

Claim 1 Is To a Specific Structure With a Specific Orientation

The sensor is specified in claim 1 by a combined structure of a hood having a filter and a main body, where the hood and main body have expressly defined locations with respect to a vehicle compartment area. As noted above with the emphasis provided by the underscored language, this structural relationship defines a sensor that is easily mounted within a vehicle compartment as an auxiliary piece of equipment, yet can detect objects outside of the compartment. Claim 1 requires that (1) the lens projects within the hood, (2) the lens is housed within the hood and (3) the object detected is in front of and outside of the compartment.

Zerbe

By the Examiner's own admission, there are two significant differences between the present invention and Zerbe. First, Zerbe does not disclose (1) that the lens is housed within the

hood and (2) that a breathable dustproof filter is provided on a part of the hood. Indeed, no lens projects into any hood in Zerbe.

Specifically, the lens 8 is within the windshield. Thus, the lens is not within any hood and does not project into any hood, as expressly claimed. This is a significant structural difference, as would be understood by one skilled in the art. Also, as a practical matter Zerbe is limited to a use of his structure in originally manufactured vehicles, and not as an auxiliary unit, as in the present invention.

Moreover, the problem confronted by the present invention does not exist in Zerbe. Specifically, the sensor optics 8 do not experience the negative influence of the inner area of the automobile (dust, moisture, etc.), as explained at col. 3, lines 45-50. An expensive and complicated windshield arrangement must be provided, as shown in Fig. 1 of Zerbe.

Further, in the absence of the problem confronted by the Applicant, one skilled in the art would not want to add additional structures to the integrated structure of Zerbe, as this would add cost and would only create additional problems for Zerbe with projections inside the vehicle compartment.

In short, the two approaches taken by Zerbe and the Appellant are completely different.

Choate

Choate does not create or suggest a need for further modification of Zerbe to add a hood and achieve a structure as claimed. Choate merely teaches that a hood of a SLR camera can house a lens (Fig. 1).

The Examiner asserts that it would be obvious to modify Zerbe to have a hood on the windshield-embedded lens based on the structure in Choate. As already noted, (1) there is no reason to add a hood to Zerbe or (2) even consider the structures of Zerbe and Choate together.

No Reason To Modify Zerbe Based on Choate

The Zerbe structure formed within a windshield does not need any hood. Indeed, the Examiner does not provide any factual findings as to why Zerbe would need a hood. Appellants respectfully submit that one skilled in the art would not put a hood over a lens in Zerbe that already is protected by embedding in the windshield. Further, one skilled in the art would not take the lens out of the windshield, where the patent teaches it should be embedded. The teaching is clearly away from the suggestion by the Examiner.

No Basis for Considering Zerbe And Choate Together

The Examiner asserts that the two references would be considered together because they are “from the same field of endeavor,” namely the physical construction of camera systems. Appellants submit that the Examiner casts the net of “same field of endeavor” too broadly. Zerbe is directed to windshield structures, which are planar and embedded in a laminate, while Choate is directed to a conventional camera with separate and detachable lenses. Zerbe’s structure identifies no problems, and even to one skilled in the art faces no problems, that may be solved by Choate. In short, there is no reason to consider the two teachings together.

No Support By Credible Factual Findings

Appellants submit that there is no credible factual basis provided by the Examiner, as required by the USPTO Obviousness Guidelines, that would support a reason for considering a

structure from Choate in combination with the structure of Zerbe. Specifically, there are no facts providing a basis for using a hood in Zerbe based on the teachings of Choate. Indeed, the facts all point away from their consideration together.

Choate concerns a hand held camera. The lens hood and cover indicated generally at 20 is associated with a conventional 35mm camera. There is a hood member 30, which is of frustoconical configuration and has structures that adapt for attachment to a hand held camera and a cover 32 that is pivotally supported on the hood by a wire frame assembly 34. There is no factual basis provided by the Examiner as to how and why such structure would be used in the complex integrated arrangement taught by Zerbe. Where would the hood go, and how would it operate with respect to the sensor of Zerbe? To the contrary, Appellants submit that the facts support a conclusion that one skilled in the art would not consider applying a hood, based on the structure in Choate requiring a pivotal support for selective operation, to the integrated and complicated windshield structure in Zerbe.

No Credible Arguments From the Examiner

In the Response to Arguments at page 2 of the Office Action issued on August 17, 2007, the Examiner agrees that the Zerbe reference is complicated. The Examiner asserts that one skilled in the art would look to Choate for a more conventional and simpler design. The Examiner also asserts that the use of a “video camera with optics housed within the camera” would be a predicted and expected result. Finally, the Examiner states that “a lens embedded in the windshield would not be protected as well as a lens housed within a camera housing, as fact specifically taught by Choate.”

These arguments by the Examiner do not meet the requirement in the Guidelines for fact finding and a clear rationale, as they are not grounded in reasonable practice and reality.

First, as to using Choate to modify Zerbe, there is no commonality between the structures of the two references. Choate concerns a hand held 35mm camera with a hood, while Zerbe concerns a video sensor with a lens integrated into a windshield. One skilled in the art looking at the two structures would not be led in any way to modify Zerbe to (1) remove the lens from the windshield, (2) place the lens in an enclosure that is exposed to the atmosphere, and (3) place the camera body outside of the enclosure. There isn't even a basis to attempt a modification of Zerbe (i.e., it isn't even "obvious to try") on the basis of the conventional camera of Choate.

Second, the invention is a specific arrangement of camera, lens and hood with respect to a windshield of a vehicle. The placement of optics within a camera has no relation to the placement of the lens projecting into and within a fixed hood. The hood in the present invention is a part of the structure in the interior of the vehicle and is partitioned with respect to the vehicle window. The hood is positioned so that the lens can detect an object located in front of the hood and window. The hood has a filter because of its mounting within the passenger compartment, so that contaminants from the compartment cannot deposit on the lens and cause distortion or blockage of an image to be detected by the camera.

Third, the Examiner's assertion that an embedded lens is less protected than a separate lens having a hood has no basis in fact and is contrary to logic and common sense. The hood in Choate can be (and is intended to be) moved, so that upon movement, the lens surface is subject

to being coated with dirt or moisture or damaged. The lens in Zerbe is always covered by a glass coating from the windshield that offers permanent protection.

Even on the basis of the KSR decision by the U.S. Supreme Court, there must be some basis for combining the two references, one of which can be a teaching suggestion or motivation. Clearly, none of these is present. Indeed, as demonstrated by Appellants, the teaching is away from covering the structure in Zerbe with a hood based on Choate.

Suzuki

The patent to Suzuki does not add anything to support the combination of Zerbe and Choate, or to refute the arguments against their combination, as presented above. The reference is merely cited for a filter.

Clearly, claim 1 is not obvious in view of the cited art.

Claims 2 and 6

Further, the dependent claims 2 and 6 are patentable at least due to their dependency from claim 1.

II. Rejection of Claims 3 and 4

Claims 3 and 4 are patentable over Zerbe (EP 0934851 A2) in view of Choate (3,840,883) and Suzuki (5,034,772) and further in view of Fujii (5,922,105). Claims 3 and 4 stand or fall with claim 1.

Fujii is cited solely for a breathable dustproof filter the is either a HEPA filter of ULPA filter. There is no teaching relevant to the design, structure and arrangement of the hood and sensor, as claimed.

III. Rejection of Claim 5

Claim 5 is patentable over Zerbe (E 0934851 A2) in view of Choate (3,840,883) and Suzuki (5,034,772) and further in view of obvious engineering design choice.

Appellants have already distinguished parent claim 1 from the combination of Choate and Suzuki. Claim 5 further specifies the location of the sensor and hood such that the “visual field of the lens coincides with the wiping range of a wiper provided on the front surface of the car window.” With regard to the orientation of the visual field of the lens, the Examiner asserts that it would be “implicit” in the disclosure of Zerbe to position the field within the wiping range of a windshield wiper. By this assertion, the Examiner admits that there is no express teaching of such orientation in Zerbe and, in fact, the figure illustrates a position that ordinarily would be out of the wiping range of the windshield wiper. The Examiner’s observations to the contrary, most car windshields, which are cleaned by wipers that operate in pairs, would not clean the area near the rear view mirror (i.e., center and top of the windshield) due to the geometry of the two semicircular paths taken by the two wipers. As would be understood by one skilled in the art, an uncleaned space is left, and this is where Zerbe positions his lenses. Moreover, Zerbe would have selected this location in order to avoid detection of movement of the wiper, due to the possibility of interference or false object detection due to the wiper itself.

Appellants would submit that the claimed location is contrary to the teachings of the art or any “implicit” location understood by one skilled in the art.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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23373

CUSTOMER NUMBER

Date: March 17, 2008

CLAIMS APPENDIX

CLAIMS 1-6 ON APPEAL:

1. A sensor in a car window, comprising:

a hood partitioned in consort with a car window and disposed within a vehicle compartment area; and

a sensor main body having a lens, at least said lens projecting into and housed within the hood, wherein said sensor is operative to detect, through the lens, an object to be detected that is located in front thereof and outside of the vehicle compartment area,

wherein a breathable dustproof filter is provided on a part of the hood.

2. A sensor in a car window according to Claim 1, wherein a breathable dustproof filter is detachably installed to a part of the hood.

3. A sensor in a car window according to Claim 1, wherein the breathable dustproof filter is a HEPA filter.

4. A sensor in a car window according to Claim 1, wherein the breathable dustproof filter is an ULM filter.

5. A sensor in a car window according to Claim 1, wherein the visual field of the lens coincides with the wiping range of a wiper provided on the front surface of the car window.

6. A sensor in a car window according to Claim 1, wherein the sensor main body is a camera main body.

EVIDENCE APPENDIX:

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), submitted herewith are copies of any evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

NONE

RELATED PROCEEDINGS APPENDIX

Submitted herewith are copies of decisions rendered by a court or the Board in any proceeding identified about in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).

NONE

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SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. The statutory fee of \$510.00 is being charged to Deposit Account No. 19-4880 via EFS Payment Screen. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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